

United States Patent and Trademark Office

USSN 10/583,426

Title: Improved Feed Mechanism for a Medical Device

Examiner: Buhisma Mehta

Filed 8 June 2006

Art Unit : 3767

Applicant: George Gallagher

Attorney: Charles N. Quinn, Reg. 27,233

Exhibit 7

Replacement Paragraph for the second paragraph, commencing with the words “The rotary motion ...” on page 8 of the application as filed, which paragraph is also a replacement for paragraph [0031] of the substitute specification submitted on 12 January 2009. The paragraph on the first page behind this sheet includes the markings to show all changes relative to the previous version of the paragraph. The paragraph on the second page behind this sheet shows the currently amended full text of the paragraph without any underlining or strikethrough.

The rotary motion of the shaft is converted into linear motion by ~~means of~~ the three bearings 26, 27 and 28 that are fixed within the carriage. The three bearings are configured such as to provide clearance between each bearing and the shaft. The two outer bearings 26, 28 are fixed at the same angle relative to the longitudinal axis of the shaft and the middle bearing 27 is fixed at an equal and opposite angle with respect to the shaft, resulting in the outer bearings running on their corresponding edges with respect to the shaft with the middle bearing running on its opposing edge. This causes the bearings to "roll" along the length of the shaft thereby converting the rotary input R provided by the motor-driven shaft into a linear output T (see FIG. 6). Thus, this arrangement enables the controlled feed of the carriage, and thus the actuator, in one direction only, by means of the rotary motion of the shaft. The actuator engages with the plunger of the syringe thereby enabling controlled discharge of fluid within the syringe.